1. INTRODUCTION

1.1 Background

The Clean Water Act Section 402 authorizes the U.S. Environmental Protection Agency (EPA) to issue National Pollutant Discharge Elimination System (NPDES) permits to regulate discharges to the nation's waters. EPA Region 4 is issuing an NPDES general permit for waters on the Outer Continental Shelf (OCS) of the eastern Gulf of Mexico for effluent discharges associated with oil and gas exploration, development, and production activities. Sections 402 and 403 of the Clean Water Act require that NPDES permits for discharges to the territorial seas (baseline to 3 miles), the contiguous zone, and the ocean be issued in compliance with EPA's regulations for preventing unreasonable degradation of the receiving waters.

Prior to permit issuance, discharges must be evaluated against EPA's published criteria for determination of unreasonable degradation. Unreasonable degradation is defined in the NPDES regulations (40 CFR 125.121[e]) as the following.

1. Significant adverse changes in ecosystem diversity, productivity, and stability of the biological community within the area of discharge and surrounding biological communities

2. Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms

3. Loss of aesthetic, recreational, scientific or economic values, which is unreasonable in relation to the benefit derived from the discharge.

Ten factors are specified at 40 CFR 125.122 for determining unreasonable degradation. They are the following.

1. The quantities, composition, and potential for bioaccumulation or persistence of the pollutants to be discharged

2. The potential transport of such pollutants by biological, physical or chemical processes

3. The composition and vulnerability of the biological communities which may be exposed to such pollutants, including the presence of unique species or communities of species, the presence of species identified as endangered or threatened pursuant to the Endangered Species Act, or the presence of those species critical to the structure or function of the ecosystem, such as those important for the food chain

4. The importance of the receiving water area to the surrounding biological community, including the presence of spawning sites, nursery/forage areas, migratory pathways, or areas necessary for other functions or critical stages in the life cycle of an organism

5. The existence of special aquatic sites including, but not limited to, marine sanctuaries and refuges, parks, national and historic monuments, national seashores, wilderness areas, and coral reefs

6. The potential impacts on human health through direct and indirect pathways

7. Existing or potential recreational and commercial fishing, including finfishing and shellfishing

8. Any applicable requirements of an approved Coastal Zone Management plan

9. Such other factors relating to the effects of the discharge as may be appropriate

10. Marine water quality criteria developed pursuant to Section 304(a)(1).

In the event that an assessment of these 10 factors determines that unreasonable degradation may occur even with proposed technology- and water quality-based permit conditions in place, Section 403(c) authorizes the Agency to impose more stringent permit conditions and/or monitoring. If the Agency concludes that a determination cannot be made due to lack of data, an NPDES permit may not be issued.

1.2 Scope

This Ocean Discharge Criteria Evaluation (ODCE) will address the ten factors for determining unreasonable degradation as outlined above and at 40 CFR 125.122. It will also assess whether the information exists to make a "no unreasonable degradation" determination including any permit conditions that may be necessary to make that determination. The information contained in several chapters of the ODCE includes the geographic area shoreward of the 200 meter depth contour in the Eastern Planning Area, not covered by the general permit, for completeness and to fully address the potential for impacts to these areas from oil and gas activities beyond (seaward) of the 200 meter depth contour.

Chapter 2 of this document describes the physical and chemical oceanography relevant to the coverage area, and addresses Factor 2 of the 10 factors listed above. The quantities and composition of materials that are potentially discharged from covered facilities (Factor 1) are described in Chapter 3 of this document. The fourth chapter of this ODCE describes the transport and persistence characteristics of the discharges (Factor 2). Chapter 5 summarizes the toxicity and bioaccumulation characteristics of the waste streams covered by the propose permit (Factors 1 and 6). The biological communities, endangered species, and the importance of the receiving waters to those species and their habitats (Factors 3 and 4) are presented in Chapter 6 of this document. Commercial and recreational fisheries are discussed in Chapter 7 (Factor 7). The OCS general permit covers only Federal waters beyond state jurisdiction; however the coastal zone management plans (CZMPs) of Florida, Alabama, and Mississippi were reviewed for consistency due to the proximity of Federal waters to state waters. Chapter 8 discusses the consistency of the proposed permit with those plans (Factors 5, 7, and 8). Chapter 9 compares Federal marine water quality and human health criteria and Florida, Alabama, and Mississippi

state water quality standards (Factor 10) to projected water column pollutant concentrations to assess potential impacts of the discharge, both on human health (Factor 6) and on biological communities (Factors 3 and 4). Chapter 10 summarizes information regarding the potential effects of covered discharges considering all of the information presented in Chapters 3 through 9. Chapter 11 offers the basis for the Agency's determination on consistency with the 10 factors used to determine unreasonable degradation. This chapter also describes the technology-, water quality-, or 403(c)-based permit conditions.